

§ 21.3 Reporting of failures, malfunctions, and defects.

(a) The holder of a type certificate (including amended or supplemental type certificates), a PMA, or a TSO authorization, or the licensee of a type certificate must report any failure, malfunction, or defect in any product or article manufactured by it that it determines has resulted in any of the occurrences listed in paragraph (c) of this section.

(b) The holder of a type certificate (including amended or supplemental type certificates), a PMA, or a TSO authorization, or the licensee of a type certificate must report any defect in any product or article manufactured by it that has left its quality system and that it determines could result in any of the occurrences listed in paragraph (c) of this section.

(c) The following occurrences must be reported as provided in paragraphs (a) and (b) of this section:

(1) Fires caused by a system or equipment failure, malfunction, or defect.

(2) An engine exhaust system failure, malfunction, or defect which causes damage to the engine, adjacent aircraft structure, equipment, or components.

(3) The accumulation or circulation of toxic or noxious gases in the crew compartment or passenger cabin.

(4) A malfunction, failure, or defect of a propeller control system.

(5) A propeller or rotorcraft hub or blade structural failure.

(6) Flammable fluid leakage in areas where an ignition source normally exists.

(7) A brake system failure caused by structural or material failure during operation.

(8) A significant aircraft primary structural defect or failure caused by any autogenous condition (fatigue, understrength, corrosion, etc.).

(9) Any abnormal vibration or buffeting caused by a structural or system malfunction, defect, or failure.

(10) An engine failure.

(11) Any structural or flight control system malfunction, defect, or failure which causes an interference with normal control of the aircraft for which derogates the flying qualities.

(12) A complete loss of more than one electrical power generating system or

hydraulic power system during a given operation of the aircraft.

(13) A failure or malfunction of more than one attitude, airspeed, or altitude instrument during a given operation of the aircraft.

(d) The requirements of paragraph (a) of this section do not apply to—

(1) Failures, malfunctions, or defects that the holder of a type certificate (including amended or supplemental type certificates), PMA, TSO authorization, or the licensee of a type certificate determines—

(i) Were caused by improper maintenance or use;

(ii) Were reported to the FAA by another person under this chapter; or

(iii) Were reported under the accident reporting provisions of 49 CFR part 830 of the regulations of the National Transportation Safety Board.

(2) Failures, malfunctions, or defects in products or articles—

(i) Manufactured by a foreign manufacturer under a U.S. type certificate issued under § 21.29 or under an approval issued under § 21.621; or

(ii) Exported to the United States under § 21.502.

(e) Each report required by this section—

(1) Must be made to the FAA within 24 hours after it has determined that the failure, malfunction, or defect required to be reported has occurred. However, a report that is due on a Saturday or a Sunday may be delivered on the following Monday and one that is due on a holiday may be delivered on the next workday;

(2) Must be transmitted in a manner and form acceptable to the FAA and by the most expeditious method available; and

(3) Must include as much of the following information as is available and applicable:

(i) The applicable product and article identification information required by part 45 of this chapter;

(ii) Identification of the system involved; and

(iii) Nature of the failure, malfunction, or defect.

(f) If an accident investigation or service difficulty report shows that a product or article manufactured under

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this part is unsafe because of a manufacturing or design data defect, the holder of the production approval for that product or article must, upon request of the FAA, report to the FAA the results of its investigation and any action taken or proposed by the holder of that production approval to correct that defect. If action is required to correct the defect in an existing product or article, the holder of that production approval must send the data necessary for issuing an appropriate airworthiness directive to the FAA.

[Amdt. 21–36, 35 FR 18187, Nov. 28, 1970, as amended by Amdt. 21–37, 35 FR 18450, Dec. 4, 1970; Amdt. 21–50, 45 FR 38346, June 9, 1980; Amdt. 21–67, 54 FR 39291, Sept. 25, 1989; Amdt. 21–92, 74 FR 53385, Oct. 16, 2009; Doc. No. FAA–2018–0119, Amdt. 21–101, 83 FR 9169, Mar. 5, 2018]

§21.4 ETOPS reporting requirements.

(a) *Early ETOPS: reporting, tracking, and resolving problems.* The holder of a type certificate for an airplane-engine combination approved using the Early ETOPS method specified in part 25, Appendix K, of this chapter must use a system for reporting, tracking, and resolving each problem resulting in one of the occurrences specified in paragraph (a)(6) of this section.

(1) The system must identify how the type certificate holder will promptly identify problems, report them to the

responsible Aircraft Certification Service office, and propose a solution to the FAA to resolve each problem. A proposed solution must consist of—

- (i) A change in the airplane or engine type design;
- (ii) A change in a manufacturing process;
- (iii) A change in an operating or maintenance procedure; or
- (iv) Any other solution acceptable to the FAA.

(2) For an airplane with more than two engines, the system must be in place for the first 250,000 world fleet engine-hours for the approved airplane-engine combination.

(3) For two-engine airplanes, the system must be in place for the first 250,000 world fleet engine-hours for the approved airplane-engine combination and after that until—

- (i) The world fleet 12-month rolling average IFSD rate is at or below the rate required by paragraph (b)(2) of this section; and
- (ii) The FAA determines that the rate is stable.

(4) For an airplane-engine combination that is a derivative of an airplane-engine combination previously approved for ETOPS, the system need only address those problems specified in the following table, provided the type certificate holder obtains prior authorization from the FAA:

If the change does not require a new airplane type certificate and . . .	Then the Problem Tracking and Resolution System must address . . .
(i) Requires a new engine type certificate	All problems applicable to the new engine installation, and for the remainder of the airplane, problems in changed systems only.
(ii) Does not require a new engine type certificate	Problems in changed systems only.

(5) The type certificate holder must identify the sources and content of data that it will use for its system. The data must be adequate to evaluate the specific cause of any in-service problem reportable under this section or §21.3(c) that could affect the safety of ETOPS.

(6) In implementing this system, the type certificate holder must report the following occurrences:

- (i) IFSDs, except planned IFSDs performed for flight training.
- (ii) For two-engine airplanes, IFSD rates.

(iii) Inability to control an engine or obtain desired thrust or power.

(iv) Precautionary thrust or power reductions.

(v) Degraded ability to start an engine in flight.

(vi) Inadvertent fuel loss or unavailability, or uncorrectable fuel imbalance in flight.

(vii) Turn backs or diversions for failures, malfunctions, or defects associated with an ETOPS group 1 significant system.